

PTO/SB/08A (10-01)




Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Complete if Known			
		Application Number	10/057,582		
		Filing Date	January 23, 2002		
		First Named Inventor	Frederick Blattner		
		Group Art Unit	1636		
		Examiner Name	To be assigned		
Sheet	1	of	6	Attorney Docket Number	960296.95726

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
<i>M</i>	A1	US-5,747,662	05-05-1998	Simmons et al.	
<i>M</i>	A2	US-5,578,464	11-26-1996	Lunn et al.	
<i>M</i>	A3	US-5,824,502	10-20-1998	Honjo et al.	
<i>M</i>	A4	US-5,962,327	10-05-1999	Dujon et al.	
<i>M</i>	A5	US-6,015,709	01-28-2000	Natesan	
<i>M</i>	A6	US-6,022,952	02-08-2000	Weiner et al.	
<i>M</i>	A7	US-6,117,680	09-12-2000	Natesan et al.	
<i>M</i>	A8	US-6,238,924	05-29-2001	Dujon et al.	
<i>M</i>	A9	US-6,335,178	01-01-2002	Weiner et al.	
<i>M</i>	A10	US-6,372,476	04-16-2002	Belguith et al.	
<i>M</i>	A11	US-6,410,273	06-25-2002	Crouzet et al.	
<i>M</i>	A12	US-6,509,156	01-21-2003	Stewart et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
	B1	WO 96/14,408	05-17-1996	Chouluka		
	B2	WO 02/14,495 A2	02-21-2002	Court et al.		
	B3	EP 0177343	04-09-1986	Lawrence et al.		

Examiner Signature	<i>M. T. J. A.</i>	Date Considered	1/5/05
-------------------------------	--------------------	----------------------------	--------










*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds codes of USPTO Patent Documents as www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST. 3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden House Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231. 373402

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/057,582
		Filing Date	January 23, 2002
		First Named Inventor	Frederick Blattner
		Group Art Unit	1636
		Examiner Name	To Be Assigned
Sheet	2	of	6
		Attorney Docket Number	960296.75726

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher city and/or country where published	T ²
	C1	Balbas (2001). Understanding the art of producing protein and non-protein molecules in E. coli. Molec Biotechnol 19: 251-267	
	C2	Baneyx (1999). Recombinant protein expression in E. coli. Current Opinion in Biotech 10: 411-421	
	C3	Berry et al. (2002). Application of metabolic engineering to improve both production and use of biotech indigo. J Indust Micro & Biotech 22: 127-133	
	C4	Blattner et al. (1997). The complete genome sequence of Escherichia coli K-12. Science 277:1453-74	
	C5	Blaudeck et al. (2001). Specificity of single peptide recognition in TAT-dependent bacterial protein translocation. J. Bacteriology 183:604-610	
	C6	Court et al. (2002). Genetic engineering using homologous recombination. Annu. Rev. Genet. 36: 361-88	
	C7	Current Protocols in Molecular Biology (1994). 16.6.1-16.6.14 (Copyrighted 2000 by John Wiley et al. and Sons).	
	C8	Danese et al. (1998). Targeting and assembly of periplasmic and outer-membrane proteins in Escherichia coli. Annu. Rev. Genet. 32:59-94	
	C9	Datsenko et al (2000). One-step inactivation of chromosomal genes in Escherichia coli K-12 using PCR products. Proc. Natl. Acad. Sci. 97:6640-6649	
	C10	Degryse (1995). Evaluation of Escherichia coli <i>recBC sbcBC</i> mutants for cloning by recombination in vivo. J. Biotechnology 39: 181-187	

Examiner Signature		Date Considered	1/5/05
---------------------------	---	------------------------	--------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place mark here if English language Translation is attached.

Burden House Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/057,582
		Filing Date	January 23, 2002
		First Named Inventor	Frederick Blattner
		Group Art Unit	1636
		Examiner Name	To Be Assigned
		Attorney Docket Number	960296.75726
Sheet	3	of	6

W	C11	DeLisa et al. (2001). Quorum sensing via AI-2 communicates the metabolic burden associated with heterologous protein production in E. coli. Biotech Bioeng 75(4): 439-450	
	C12	Feher et al. (September 11, 2002). Engineering a reduced Escherichia coli genome. Conference Abstract.	
W	C13	Fekkes et al. (1999). Protein targeting to the bacterial cytoplasmic membrane. Microbiol. Mol. Biol. Rev. 63:161-193	
W	C14	Gill et al. (2000). A comparative study of global stress gene regulation in response to overexpression of recombinant proteins in E.coli. Metabolic Engineering 2: 178-189.	
W	C15	Hanahan et al. (1983). Studies on transformation of Escherichia coli with plasmids. J. Mol. Biol. 166(4):557-580	
W	C16	Hannig (1998). Strategies for optimizing heterologous protein expression in Escherichia coli. Trends Biotechnol. 16(2):54-60	
W	C17	Hayashi et al (2001). Construction of a genetic linkage map of the model legume Lotus japonicus using an intraspecific F2 population. DNA Research 8: 11-22	
W	C18	Hockney (1994). Recent developments in heterologous protein production in Escherichia coli. Trends Biotechnol. 12(11):456-632	
W	C19	Hynds et al. (1998). The sec-independent twin-arginine translocation system can transport both tightly folded and malfolded proteins across the thylakoid membrane. J. Biol. Chem. 273:34868-34874	
W	C20	Kitamura (1995). DNA sequence changes in mutations in the ton B gene on the chromosome of Escherichia coli K-12: insertion elements dominate the spontaneous spectra. Jpn J Genet 70: 35-46	
W	C21	Kolisnychenko et al. (2002). Engineering a reduced Escherichia coli genome. Genome Research 12:640-647	
W	C22	Koob et al.. Minimizing the genome of Escherichia coli. Ann. N.Y. Acad. Science	

Examiner Signature	<i>[Signature]</i>	Date Considered	1/5/02
--------------------	--------------------	-----------------	--------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place mark here if English language Translation is attached.

Burden House Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231. 373402

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/057,582
		Filing Date	January 23, 2002
		First Named Inventor	Frederick Blattner
		Group Art Unit	1636
		Examiner Name	To Be Assigned
Sheet 4 of 6	Attorney Docket Number	960296.75726	

<i>W</i>	C23	Koonin (2000). How many genes can make a cell: The minimal-gene-set concept. Ann Rev Genom Hum Genet 1: 99-116	
<i>W</i>	C24	Lee (1996). High cell-density culture of Escherichia coli. TIBTECH 14:98-103	
<i>W</i>	C25	Murphy (1998). Use of bacteriophage λ recombination functions to promote gene replacement in <i>Escherichia coli</i>. J. Bacteriol. 180: 2063-2071	
<i>W</i>	C26	Muyrers et al. (1999). Rapid modification of bacterial artificial chromosomes by ET-recombination. Nucl. Acids. Res. 27: 1555-1557	
<i>W</i>	C27	Neidhardt et al. (1974). Culture medium for Enterobacteria. J. Bacteriol. 119:736-747	
<i>W</i>	C28	Oliner et al. (1993). In vivo cloning of PCR products in <i>E. coli</i>. Nucleic Acids Res. 2(22): 5192-7	
<i>W</i>	C29	Otto et al. (2002). Surface sensing and adhesion of <i>E. coli</i> controlled by the Cpx-signaling pathway. Proc. Nat. Acad. Sci. US 99(4): 2287-2292	
<i>W</i>	C30	Perna et al. (2001). Genome sequence of enterohaemorrhagic <i>Escherichia coli</i> O157:H7. Nature 409:529-533	
<i>W</i>	C31	Perna et al. (2002). The genomes of <i>Escherichia coli</i> K-12 and pathogenic <i>E. coli</i>. Pathogenic <i>E. coli</i> Paradigm for Bacterial pathogenesis, M.S. Donnenberg, Editor. Academic Press	
<i>W</i>	C32	Pfeifer et al. (2001). Biosynthesis of complex polyketides in a metabolically engineered strain of <i>E. coli</i>. 291: 1790-1792	
<i>W</i>	C33	Posfai et al. (1997). Versatile insertion plasmids for targeted genome manipulations in bacteria: isolation, deletion, and rescue of the pathogenicity island LEE of the <i>Escherichia coli</i> O157:H7 genome. J. Bacteriol. 179: 4426-4428	
<i>W</i>	C34	Posfai et al. (1999). Markerless gene replacement in <i>Escherichia coli</i> stimulated by a double-strand break in the chromosome. Nucl. Acids Res. 27:4409-4415	

Examiner Signature	<i>W. T. Vogel</i>	Date Considered	1/6/05
--------------------	--------------------	-----------------	--------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place mark here if English language Translation is attached.

Burden House Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/057,582
		Filing Date	January 23, 2002
		First Named Inventor	Frederick Blattner
		Group Art Unit	1636
		Examiner Name	To Be Assigned
Sheet 5 of 6		Attorney Docket Number	960296.75726

<i>W</i>	C35	Pugsley (1993). The complete general secretary pathway in gram-negative bacteria. Microbiol. Rev. 57:50-108	
<i>W</i>	C36	Reisenberg (1991). High cell density cultivation of E.coli at controlled specific growth rate. J. Biotech 20(1): 17-27	
<i>W</i>	C37	Ritz et al. (2001). Roles of thiol redox pathways in bacteria. Annu Rev Microbiol 55: 21-48	
	C38	Sambrook et al.(1989). Molecular Cloning: a Laboratory Press, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, N.Y.	
	C39	Sanford (16-17 May 2002). The role of Biotechnology in Industrial Sustainability in section "Factory of tomorrow." Conference, Antwerp	
<i>W</i>	C40	Santini et al. (1998). A novel sec-independent periplasmic protein translocation pathway in Escherichia coli. EMBO J. 17:101-112	
<i>W</i>	C41	Sargent et al. (1998). Overlapping functions of components of a bacterial Sec-independent protein export pathway. EMBO J. 17:3640-50	
	C42	Schaechter et al. (1997). Introduction. In Escherichia coli and Salmonella (ed. Neidhart, FC et al.) 1-2. ASM Press, Washington, DC.	
<i>W</i>	C43	Selinger et al. (2000). RNA expression analysis using a 30 base pair resolution Escherichia coli genome array. Nat Biotechnol 18(12): 1262-1268	
<i>W</i>	C44	Simmons et al. (1996). Translational level is a critical factor for secretion of heterologous proteins in E. coli. Nature 14: 629-634	
<i>W</i>	C45	Sing-Gasson et al. (1999). Maskless fabrication of light-directed oligonucleotide microarrays using a digital micromirror array. Nat Biotechnol. 17(10): 974 978	
<i>W</i>	C46	Swartz (2001). Advances in E. coli production of therapeutic proteins. Curr Opinion in Biotech 12: 195-201	

Examiner Signature	<i>[Signature]</i>	Date Considered	1/5/05
--------------------	--------------------	-----------------	--------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place mark here if English language Translation is attached.

Burden House Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/057,582
		Filing Date	January 23, 2002
		First Named Inventor	Frederick Blattner
		Group Art Unit	1636
		Examiner Name	To Be Assigned
		Attorney Docket Number	960296.75726
Sheet	6	of	6

<i>W</i>	C47	Thomas et al. (2001). Export of active green fluorescent protein to the periplasm by the twin-arginine translocase (Tat) pathway in <i>Escherichia coli</i> . Mol. Micro. 39(1):47-53	
<i>W</i>	C48	Venkatesan et al. (2001). Complete DNA Sequence and analysis of the large virulence plasmid of <i>Shigella flexneri</i> . Infection of Immunity 3271-3285	
<i>W</i>	C49	Weiner et al. (1998). A novel and ubiquitous system for membrane targeting and secretion of cofactor-containing proteins. Cell 93:93-101	
<i>W</i>	C50	Welch et al. (2002). Extensive mosaic structure revealed by the complete genome sequence of uropathogenic <i>Escherichia coli</i> . Proc. Natl. Acad. Sci. USA 99(26): 17020-17024	
<i>W</i>	C51	Yu et al. (2000). An efficient recombination system for chromosome engineering in <i>Escherichia coli</i> . Proc. Natl. Acad. Sci. USA 97: 5978-5983	
<i>W</i>	C52	Yu et al. (2002). Minimization of the <i>Escherichia coli</i> genome using a Tn5-targeted Cre/LoxP excision system. Nature Biotech. 20:1018-1023	
<i>W</i>	C53	Zhang et al. (1998). A new logic for DNA engineering using recombination in <i>Escherichia coli</i> . Nature Genetics 20: 123-128	
<i>W</i>	C54	Zhang et al. (2000). DNA cloning by homologous recombination in <i>Escherichia coli</i> . Nature Biotechnology 18: 1314-1317	
<i>W</i>	C55	Zhang et al. (2003). Phage annealing proteins promote oligonucleotide-directed mutagenesis in <i>Escherichia coli</i> and mouse ES cells. BMC Molecular Biology 4: 1	
<i>W</i>	C56	Yu et al. (Oct. 2002), Minimization of the <i>Escherichia coli</i> genome using Tn5-targeted Cre/loxP excision system, Nature Biotechnology, Vol. 20, pp. 1018-1023.	

Examiner Signature	<i>W. T. Vard</i>	Date Considered	1/6/05
--------------------	-------------------	-----------------	--------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place mark here if English language Translation is attached.

Burden House Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.